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Dietary Interventions for Recurrent Abdominal Pain in Childhood

Juan Qiu, MD, PhD, Pennsylvania State University College of Medicine, State College, Pennsylvania

Author disclosure: No relevant financial affiliations.

Clinical Question

Are dietary interventions effective in improving pain in school-aged children with recurrent abdominal pain?

Evidence-Based Answer

Probiotics relieve pain in children with recurrent abdominal pain in the short term (number needed to treat [NNT] = 8). There is no convincing evidence that fiber supplements improve pain in children with recurrent abdominal pain.[1] (Strength of Recommendation: A, based on consistent, good-quality patient-oriented evidence.)

Practice Pointers

Recurrent abdominal pain in children is characterized by pain that comes and goes without clear etiology. It represents a group of functional gastrointestinal disorders including functional dyspepsia, irritable bowel syndrome, abdominal migraines, functional abdominal pain, and functional abdominal pain syndrome.[2] About 13.5% of school-aged children worldwide experience recurrent abdominal pain that interferes with their activities of daily living.[3] Although typically benign, recurrent abdominal pain is associated with school absences, hospital admissions, emotional disorders, and unnecessary surgeries. The authors of this review aimed to determine the effectiveness of dietary interventions for recurrent abdominal pain in children.

This Cochrane review included 19 randomized controlled trials with a total of 1,453 participants five to 18 years of age, with follow-up ranging from one to five months.[1] Most reported trials compared probiotics or fiber-based interventions vs. placebo. One trial described a comparison of fructose-restricted diets vs. a standard diet, and another trial described diets low in fermentable oligosaccharides, disaccharides, monosaccharides, and polyols vs. a standard diet. No trials directly compared probiotics with fiber or other therapies. There was considerable heterogeneity in the strains and dosages of probiotics used in the trials; *Lactobacillus rhamnosus* GG (five trials) and *Lactobacillus reuteri* (three trials) were most common.

In most of the studies, the improvement in pain represented resolution of pain or a 50% decrease, although there were variations in the definition of and scales used to assess pain improvement. Probiotics were effective at improving pain in all children with recurrent abdominal pain when compared with placebo and evaluated at zero to three months (absolute risk reduction [ARR] = 12.1%; 95% confidence interval [CI], 2% to 22%; NNT = 8 [95% CI, 4.5 to 58.9]) and at three to six months (ARR = 14.7%; 95% CI, 2% to 24%; NNT = 7 [95% CI, 4.1 to 43.5]). Children diagnosed with irritable bowel syndrome who were treated with probiotics were more likely to experience pain improvement at zero to three months than those treated with placebo (ARR = 26.8%; 95% CI, 14% to 38%; NNT = 4 [95% CI, 2.6 to 7.2]).

There was no evidence that fiber supplements improve pain in children with recurrent abdominal pain. The trials for diets that restricted fructose or that were low in fermentable oligosaccharides, disaccharides, monosaccharides, and polyols were too small to draw any conclusions. No major adverse effects were reported with any of the treatments.

Current guidelines do not address the use of probiotics in the management of recurrent abdominal pain in children. Probiotics are not recommended for the treatment of childhood constipation.[4]

The practice recommendations in this activity are available at http://www.cochrane.org/CD010972.

Editor's Note: The absolute risk reductions, confidence intervals, and numbers needed to treat reported in this Cochrane for Clinicians were calculated by the author based on raw data provided in the original Cochrane review.

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